ENTECH
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WASTEWATER STUDY
LATIGO TRAILS – FILING NO. 10
BUFFALO RIVER TRAIL AND OREGON WAGON TRAIL
EL PASO COUNTY, COLORADO

Prepared for:

BRJM, LLC
P.O. Box 60069
Colorado Springs, Colorado 80960

Attn: Robert Irwin

May 7, 2024

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Logan L. Langford, P.G.
Sr. Geologist

Reviewed by:

COLORADO LICENSED JOSEPH COLLIN GOODE 23725 PROFESSIONAL ENGINEER

Digitally signed by Joseph C. Goode Jr.
Date: 05/06/24

Joseph C. Goode Jr., P.E.
President

LLL

EPC PCD No.

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1 SUMMARY

Project Location

The project lies in portions of the SW¼ of Section 16 and the SE¼ of Section 17, Township 12 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 6½ miles northeast of Colorado Springs in northern El Paso County, Colorado, south of the intersection of Buffalo River Trail and Oregon Wagon Trail in the Latigo Trails Subdivision.

Project Description

Latigo Trails – Filing No. 10 will consist of the development of approximately 130 acres with forty-three (43) single family rural residential lots and other associated site improvements. The proposed development is to be serviced by Meridian Hills Metropolitan District for water and individual on-site wastewater treatment systems (OWTS).

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic constraints and hazards affecting wastewater treatment for the proposed lots.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development. Areas were encountered where the geologic conditions will impose some minor constraints on development and land use. These include areas of artificial fill, potentially expansive soils, shallow bedrock, potentially seasonal shallow groundwater and seasonally shallow groundwater areas, and the potential for elevated radon levels. Based on the proposed development plan, it appears that these areas will have some impact on the proposed development and onsite wastewater treatment systems (OWTS). These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development can use OWTS if the observed geologic conditions on site are either avoided or properly mitigated. All recommendations are subject to the limitations discussed in the report.

2 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The project lies in portions of the SW¼ of Section 16 and the SE¼ of Section 17, Township 12 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 6½ miles northeast of Colorado Springs in northern El Paso County,

Colorado, south of the intersection of Buffalo River Trail and Oregon Wagon Trail in the Latigo Trails Subdivision. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site is gently rolling hills and valleys with a general southeast-sloping trend. Several drainages are located across the site, with an existing detention pond in the southwestern portion of the site, a pond in the central portion site. Vegetation consisted of field grasses and weeds. Existing residences and proposed developments are located to the north, south, and west, and Eastonville Road to the east. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have consisted of undeveloped grazing and pastureland. Site photographs, taken March 27, 2024, are included in Appendix A.

Latigo Trails – Filing No. 10 will consist of the development of approximately 130 acres with forty-three (43) single family rural residential lots and other associated site improvements. The proposed development is to be serviced by Meridian Hills Metropolitan District for water and individual on-site wastewater treatment systems (OWTS). Site grading will be mostly associated with the roadways and drainage improvements. The Site and Exploration Plan Map is presented in Figure 3.

3 SCOPE OF THE REPORT

The scope of the report will include a general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information in respect to major geographic and geologic features, geologic descriptions and their effects on the development of the property.

4 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on February 1, 2024.

Eight test pits were excavated as part of the investigation to determine general soil and bedrock characteristics for onsite wastewater. Test pit logs are included in Appendix B, and laboratory

testing summary and results is included in Appendix C. The locations of the test pits are indicated on the Site and Exploration Plan, Figure 3. Results of this testing will be discussed later in this report.

5 SOIL, GEOLOGY, AND ENGINEERING GEOLOGY

5.1 General Geology

Physiographically, the site lies in the western portion of the Great Plains Physiographic Province. Approximately 17 miles to the west is a major structural feature known as the Rampart Range Fault. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be very gently dipping in a northerly direction (Reference 3). The rocks in the area of the site are sedimentary in nature and typically Tertiary to Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Formation. Overlying this formation are unconsolidated deposits of colluvial and residually weathered soils, alluvial soils, and artificial fill of Holocene and Quaternary Age. The alluvial soils were deposited by water on site along the drainages located on the site. Man-placed soils exist as fill associated with grading and existing drainage improvements located in the southwestern portion of the site. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 4), previously the Soil Conservation Service (Reference 5) has mapped two soil types on the site (Figure 4). In general, the soils are classified as coarse sandy loam. The soils are described as follows:

Type	Description
83	Stapleton Sandy Loam, 3 to 8% slopes

Complete descriptions of each soil type are presented in Appendix C. The soils have generally been described to have moderate to moderately rapid permeabilities. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have moderate erosion hazards

5.3 Site Stratigraphy

The Geologic Maps of the Eastonville and Falcon Quadrangles showing the site location is shown in Figure 5 (References 6 and 7). The Geology/Engineering Geology Map prepared for the site is presented in Figure 6. Three mappable units were identified on this site which are described as follows:

Qaf **Artificial Fill of Holocene Age:** These are man placed fills associated with the recent grading operations for the on-going development to the west, existing drainage improvements, and earthen embankments observed on the site.

Qa_2 **Alluvium Two of late Holocene Age:** These are water deposited along the active drainage as stream terrace deposits that typically consist of silty to clayey sands and may contain clay layers. The Alluvium one correlates with the Post-Piney Creek Alluvium.

TKda **Dawson Arkose Formation of Tertiary to Cretaceous Age:** The Dawson Formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone, and claystone. Overlying this formation is a variable layer of residual soil. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. These soils consisted of silty sands and may contain layers of sandy clays.

The soils listed above were mapped from site-specific mapping, the *Geologic Maps of the Eastonville and Falcon Quadrangles* distributed by the Colorado Geological Survey in 2012 and 20012 (References 6 and 7), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1981 (Reference 8), and the *Geologic Map of the Denver 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 9). The test borings used in evaluating the site are included in Appendix B. The Geology/Engineering Geology Map prepared for the site is presented in Figure 7.

5.4 Soil Conditions

The soils encountered in the Test Pits can be grouped into four general soil and rock types. The soils were classified using the USDA textural soil classification. Soils encountered consisted of loamy sand (USDA Soil Type 1), Sandy Loam (Soil Type 2A), sandy clay loam (3A), sandy clay (4), silty to clayey sandstone (3A and 4A), sandy claystone (4A). Test pits were excavated to depths ranging from 3 to 7 feet below the existing surface where excavation refusal was encountered due to shallow bedrock.

The test pit logs are presented in Appendix B. Laboratory Test Results are presented in Appendix C, and a Summary of Laboratory Test Results is presented in Table C-1. Previous Laboratory Testing Summary and Test Pit Logs are included in Appendix D.

5.5 Groundwater and Drainage Areas

Groundwater was not encountered in the test borings or test pits to the depths drilled and excavated. Areas of ponded water, potentially seasonal shallow, and seasonally shallow groundwater were observed in drainage across the site. These areas are further discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time. It should be noted that in the sandy materials on-site, some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock. Builders and planners should be cognizant of the potential for the occurrence of such subsurface water features during construction on-site and deal with each individual problem as necessary at the time of construction.

Shallow Bedrock – Constraint

Bedrock was encountered in all the test pits at depths ranging from 1 foot to 6 feet. Shallow bedrock will be likely be encountered in cuts and excavations across the site. Where shallow claystone or sandstone are encountered, engineered OWTS will be required. Excavation may be difficult requiring track-mounted excavators.

Drainages and Floodplain Areas – Constraint

The site is not mapped within floodplain zones according to the FEMA Map Nos. 08041CO339G and 08041CO552G, Figure 8 (Reference 8 Several drainages are located across the site have been identified as potential seasonal and seasonal groundwater areas, with an existing detention pond in the southwestern portion of the site, a pond in the central portion site. Two of the drainages in the western and central portions of the site as shown on Figure 9 (Reference X) have been classified in the U.S. Fish and Wildlife Service National Wetlands Inventory as R4SBC – Riverine (R), Intermittent (4), Streambed (SB), Seasonally Flooded (C), and the pond in the central portion of the site has been classified as PUSC – Palustrine (P), Unconsolidated Shore (US), Seasonally Flooded (C).

Most of the drainages and ponds on the site are located within drainage easements and will be avoided by future residential development. areas are discussed as follows:

Potentially Seasonal and Seasonal Shallow Groundwater Areas – Constraint

In these areas, we would anticipate the potential for periodically high subsurface moisture conditions, frost heave potential and highly organic soils. These areas are associated with the drainages across the site that are located along proposed drainage easements and will be avoided by construction on the lots.

6 ON-SITE WASTEWATER TREATMENT

The site was evaluated for individual on-site wastewater treatment systems in accordance with El Paso Land Development Code. Eight (8) tactile test pits were excavated across the site. The test pits were located in potential locations of future systems. The approximate locations of the Test Pits are indicated on Figure 3, and on the Septic Suitability Map, Figure 8. Test Pit Logs are included in Appendix B, and Laboratory Test Results in Appendix C.

The Natural Resource Conservation Service (Reference 5), previously the Soil Conservation Service (Reference 6) has been mapped with one soil description. The Soil Survey Map (Reference 5) is presented in Figure 4, and the Soil Survey Descriptions are presented in Appendix D. The soils are described as having slow to rapid percolation rates. The majority of the soils have been described with moderate permeabilities.

Soils encountered in the tactile test pits consisted of loamy sand (USDA Soil Type 1), Sandy Loam (Soil Type 2A), sandy clay loam (3A), sandy clay (4), silty to clayey sandstone (3A and 4A), sandy claystone (4A). Redoximophic features were observed in TP-4, TP-5, TP-6, and TP-7 at depths of 4 to 5.5 feet. The limiting layers encountered in the test pits are sandy sandy clay loam (Soil Types 3A), sandstone (sandy clay loam 3A and sandy clay 4A when classified as a soil), and sandy claystone (sandy clay 4A when classified as a soil). The soil types correspond to LTAR values ranging from 0.35 to 0.15 gallons per day per square foot. Additional investigation may identify areas where suitable conventional systems could be used on the lots, however due to the shallow bedrock engineered systems are anticipated for the majority of the lots.

On-site Wastewater Systems are to be designed on a per lot basis at the time of building permit. The systems are to meet County Chapter 8 OWTS criteria and State CDPHE criteria including any required mitigation to accommodate respective leach fields and infrastructure including, but not limited to earthwork grading, berming and diversion swale implementation, installation of secondary sand filters or any other higher treatment levels and dosing as required on a per lot basis and determined by test pit results and site topography. There are no identified geologic hazards on the site that are prohibitive to future OWTS design at this time.

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems (OWTS) and that contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed accordance to El Paso County and State Guidelines and properly maintained. Based on the testing performed as part of this investigation designed systems will likely be required for the majority of the lots. A Septic Suitability Map is presented in Figure 8. OWTS sites should not be located within defined drainages. Individual soil testing is required on the lots prior to construction. Absorption fields must be located a minimum of 100 feet from any well, including those on adjacent properties. Absorption fields must also be located a minimum of 50 feet from any drainages, floodplains or ponded areas and 25 feet from dry gulches.

7 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on development and construction of the site. The majority of these conditions can be mitigated through proper engineering design and construction practices. The proposed development and use are consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for building sites will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would be greatly appreciated and could possibly help avoid construction and development problems.

This report has been prepared for BRJM, LLC for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

We trust that this report has provided you with all the information that you required. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

8 REFERENCES

1. Bryant, Bruce; McGrew, Laura W. and Wobus, Reinhard A. 1981. *Geologic Structure Map of the Denver 1° x 2° Quadrangle, North-Central Colorado*. Sheet 2. U.S. Geologic Survey. Map 1-1163.
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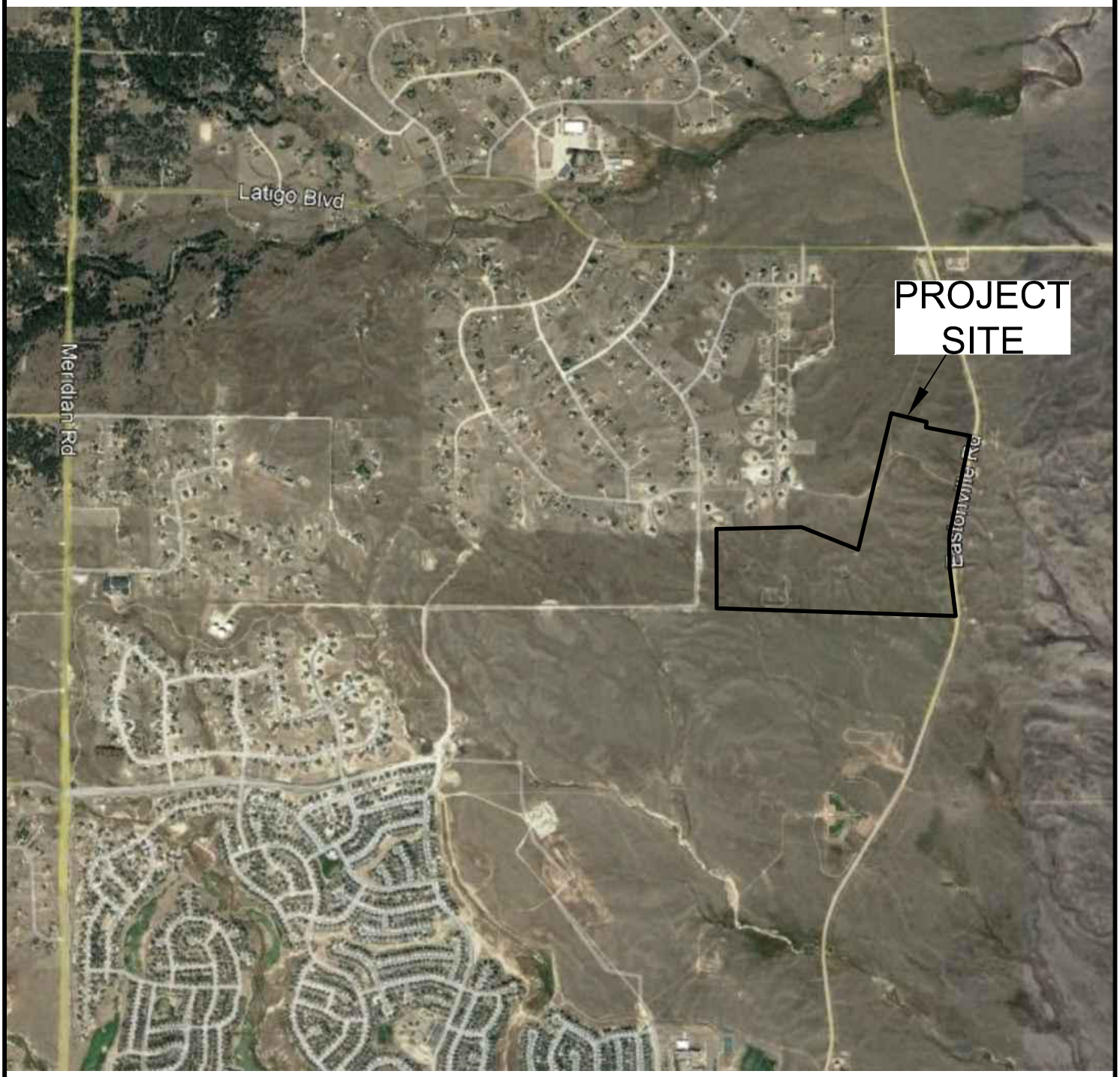
FIGURES



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VICINITY MAP

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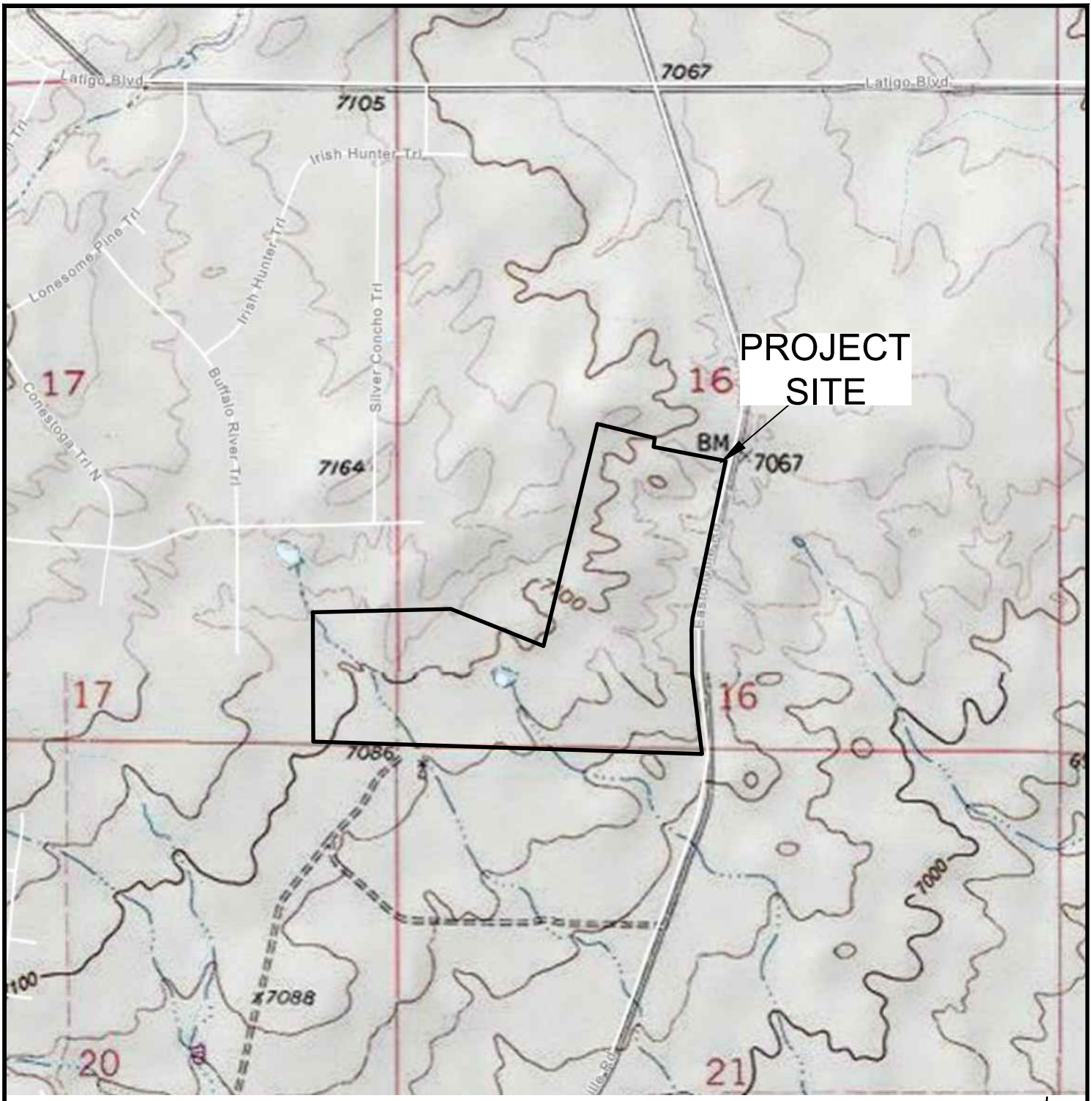
FIG. 1



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USGS TOPOGRAPHY MAP

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FIG. 2

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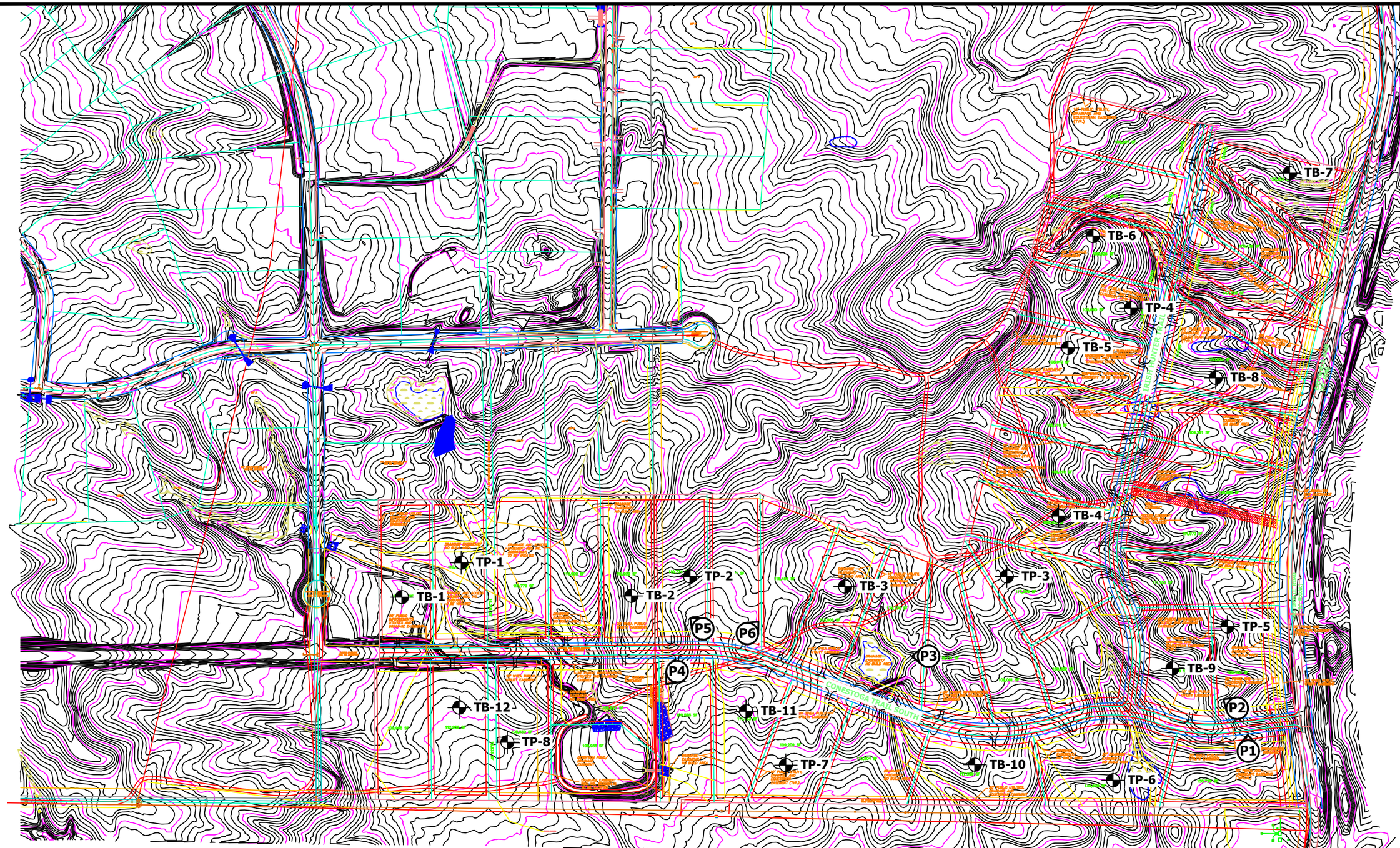

- APPROXIMATE TEST BORING LOCATION AND NUMBER

P2 - APPROXIMATE PHOTOGRAPH LOCATION AND NUMBER

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SITE AND EXPLORATION PLAN

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FIG. 3

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SOIL SURVEY MAP

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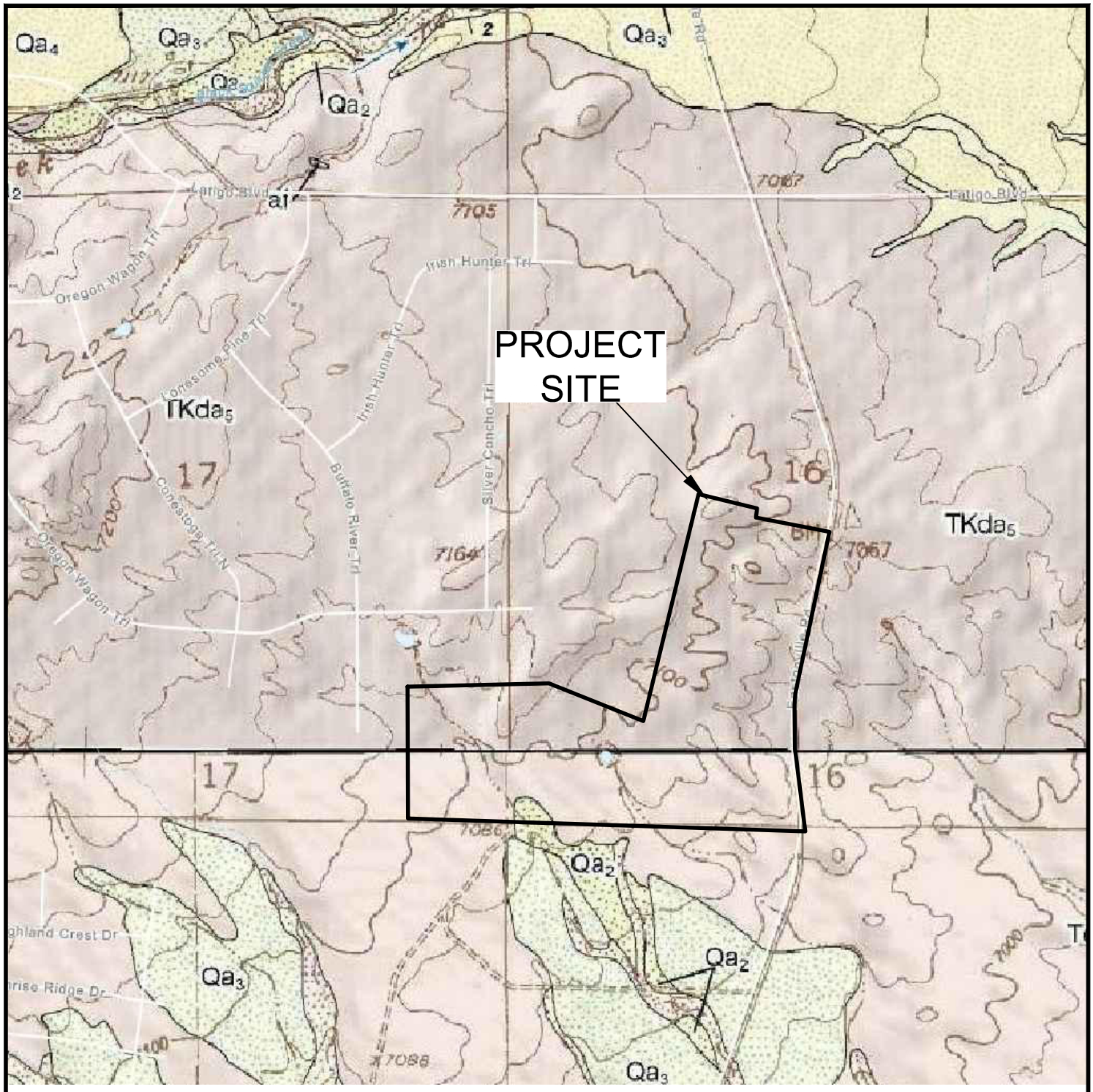
FIG. 4



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GEOLOGIC MAP OF EASTONVILLE & FALOCON QUADRANGLES

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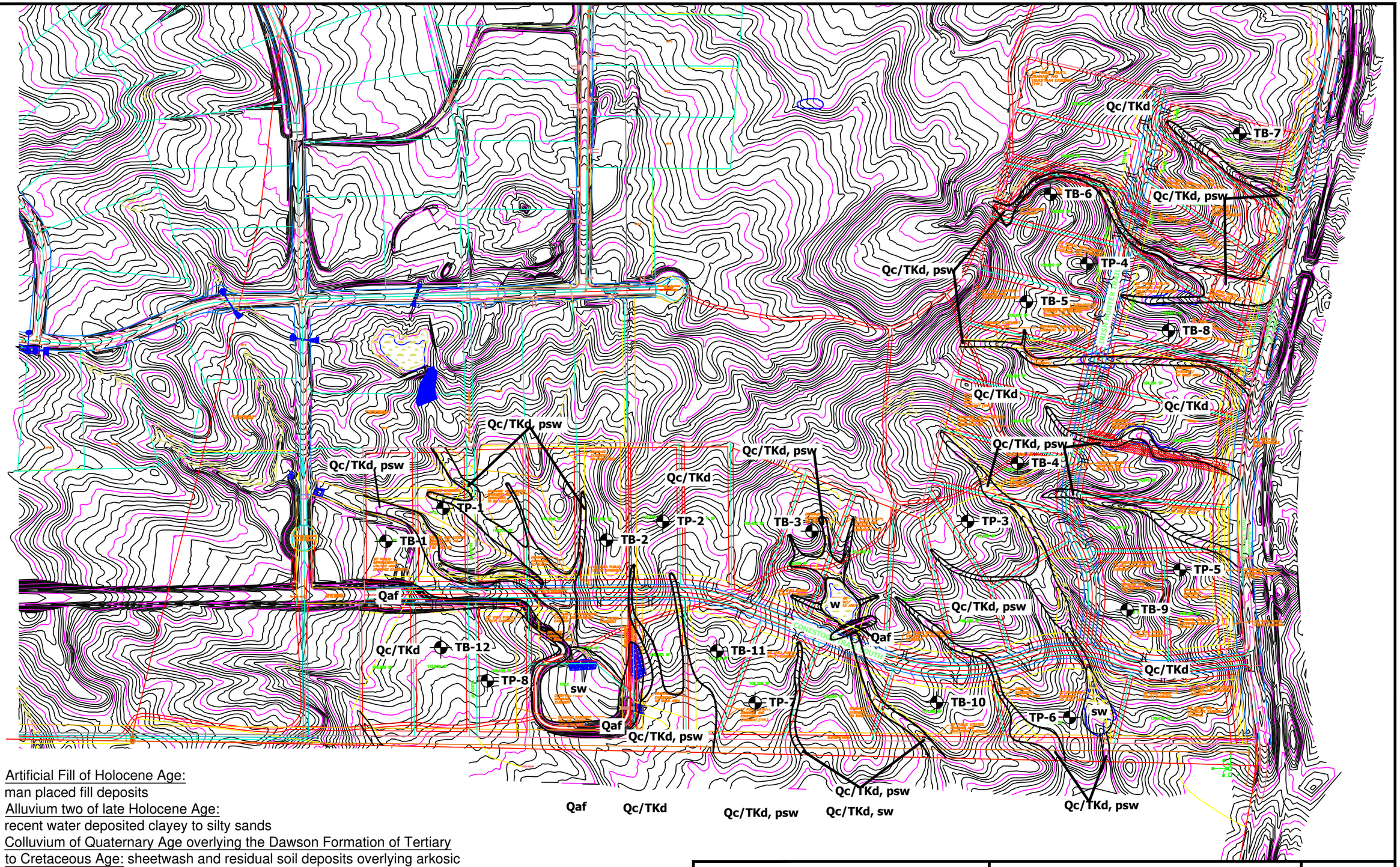
FIG. 5



Legend:

Qaf - Artificial Fill of Holocene Age:
man placed fill deposits

Qa_2 - Alluvium two of late Holocene Age:
recent water deposited clayey to silty sands

Qc/Tkda - Colluvium of Quaternary Age overlying the Dawson Formation of Tertiary to Cretaceous Age: sheetwash and residual soil deposits overlying arkosic sandstone with interbedded claystone and siltstone

psw - potentially seasonal shallow groundwater
sw - seasonal shallow groundwater area
w - ponded water

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GEOLOGY / ENGINEERING MAP

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FIG. 6

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FEMA FLOODPLAIN MAP

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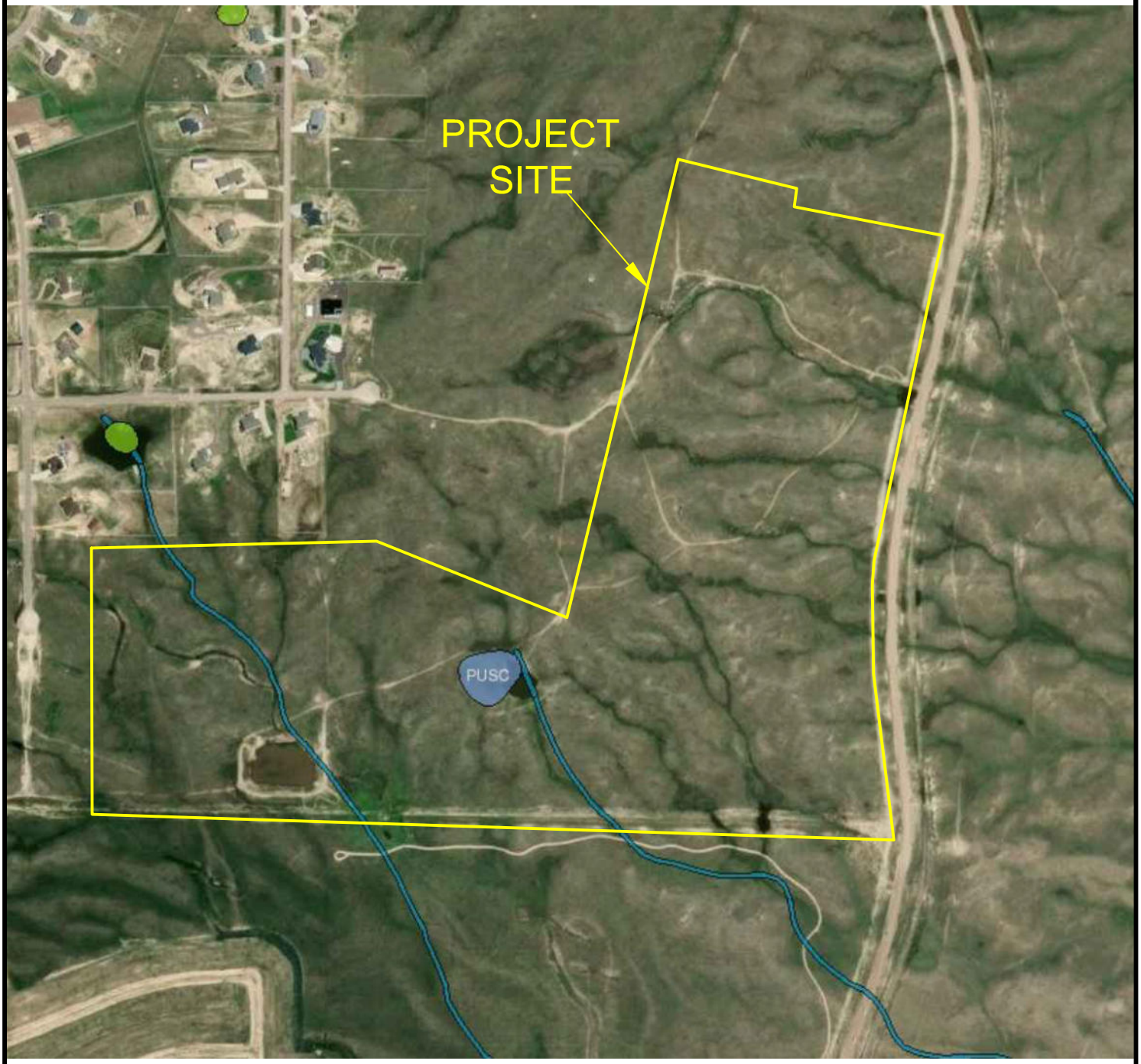
FIG. 7



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USFWS WETLANDS MAP

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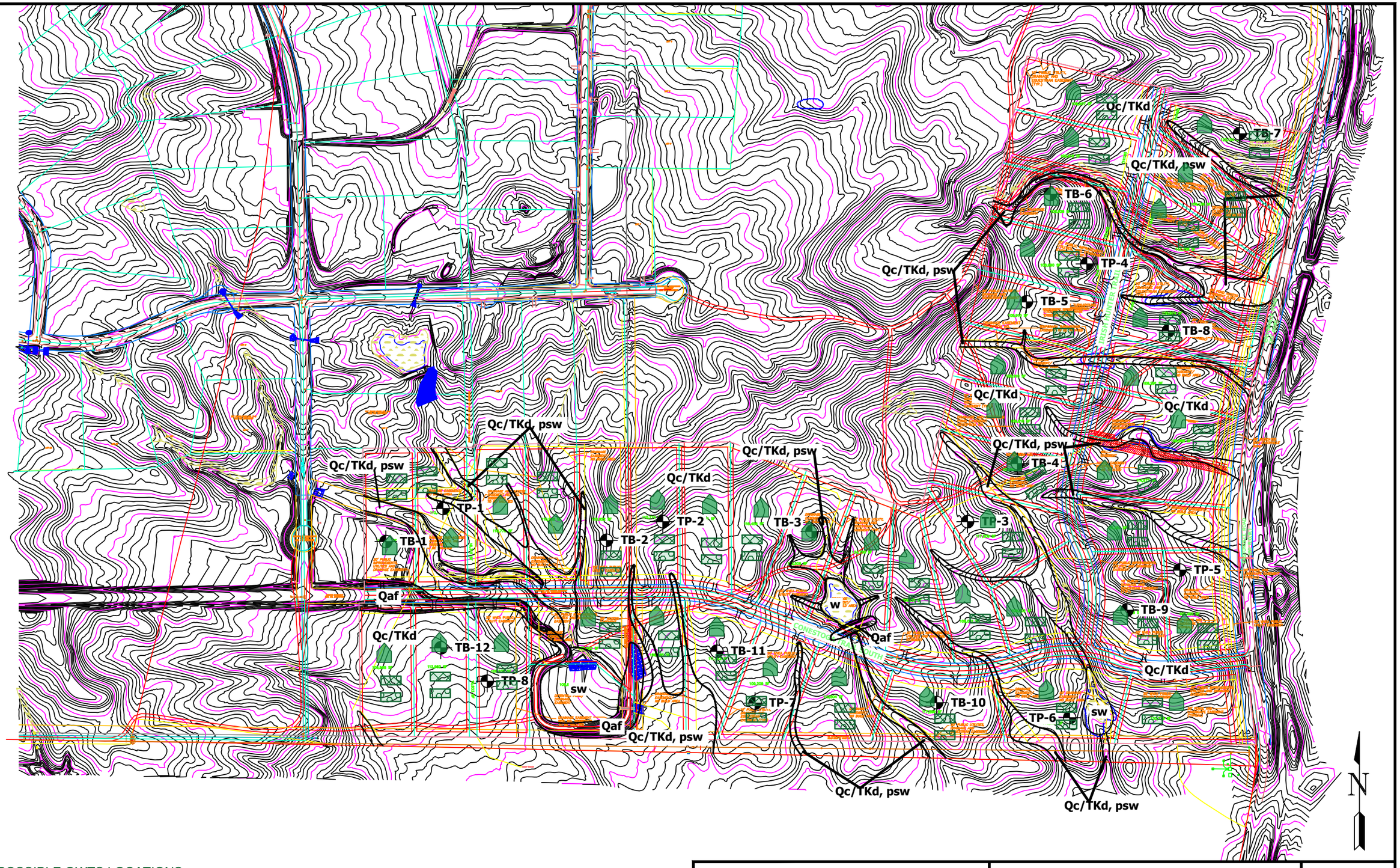
FIG. 8



LEGEND:

- POSSIBLE OWTS LOCATIONS
- POSSIBLE OWTS ALTERNATE LOCATION
- POSSIBLE HOUSE LOCATIONS

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OWTS SUITABILITY MAP

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FIG. 9

APPENDIX A: Site Photographs

APPENDIX B: Test Pit Logs

TEST PIT 1
DATE EXCAVATED 4/3/2024

REMARKS

39.0007991º, -104.573925º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			GR	W	2A
3					
4					
5			MA		4A
6					
7					
8					
9					
10					

TOPSOIL (0-12IN), SANDY LOAM, FINE to COARSE GRAINED, DARK BROWN

COMPLETELY WEATHERED SANDSTONE, DAWSON FORMATION (SANDY LOAM, FINE to COARSE GRAINED, TAN-OLIVE)

WEATHERED CLAYEY SANDSTONE, DAWSON FORMTAION (SANDY CLAY LOAM FINE TO COARSE GRAINED, OLIVE

TEST PIT 2
DATE EXCAVATED 4/3/2024

REMARKS

39.000552º, -104.570607º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			MA		3A
3					
4					
5					
6					
7					
8					
9					
10					

TOPSOIL (0-18IN), SANDY CLAY LOAM, FINE to MEDIUM GRAINED, DARK BROWN

COMPLETELY WEATHERED SANDSTONE, DAWSON

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l
massive - ma

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TEST PIT LOGS

LATIGO TRAILS, FILING NO. 10
BRJM, LLC

JOB NO. 240519

FIG. B-1

TEST PIT 3
DATE EXCAVATED 4/3/2024

REMARKS

39.000533º, -104.566213º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			GR	W	3A
3					
4			MA		4A
5					
6					
7					
8					
9					
10					

TOPSOIL (0-18IN), SANDY CLAY, FINE TO MEDIUM GRAINED, DARK BROWN

SANDY CLAY LOAM, FINE to COARSE GRAINED, OLIVE

COMPLETELY WEATHERED TO RESIDUALLY WEATHERED SITLY TO CLAYEY SANDSTONE , DAWSON FORMATION, (SANDY CLAY LOAM to SANDY CLAY, FINE TO COARSE GRAINED, LIGHT BROWN TO OLIVE)

TEST PIT 4
DATE EXCAVATED 4/3/2024

REMARKS

39.0026701º, -104.564458º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
1					
2			GR	W	2A
3					
4					
5			MA		4A
6					
7					
8					
9					
10					

TOPSOIL (0-18IN), SANDY LOAM, FINE TO MEDIUM GRAINED, DARK BROWN

SANDY LOAM, FINE TO COARSE GRAINED, LIGHT BROWN

COMPLETELY WEATHERED TO RESIDUALLY WEATHERED SITLY TO CLAYEY SANDSTONE , DAWSON FORMATION, (SANDY CLAY LOAM to SANDY CLAY, FINE TO COARSE GRAINED, OLIVE

*-REDOXIMORPHIC FEATURES AT 5.5'

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l
massive - ma

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TEST PIT LOGS

LATIGO TRAILS, FILING NO. 10
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JOB NO. 240519

FIG. B-2

TEST BORING 5 DATE DRILLED 4/3/2024 REMARKS 39.0000831º, -104.563533º	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
TOPSOIL (0-24IN), SANDY LOAM, FINE to COARSE GRAINED, DARK BROWN	1					
	2			GR	W	3A
SANDY CLAY LOAM, FINE to COARSE GRAINED, LIGHT BROWN	3					
	4			GR	W	4A
COMPLETELY WEATHERED CLAYEY SANDSTONE, DAWSON FORMATION, (SANDY CLAY WITH GRAVEL, LIGHT BROWN to OLIVE)	5					
	6					
	7					
*-REDOX FEATURES AT 4.5'	8					
	9					
	10					

TEST BORING 6 DATE DRILLED 4/3/2024 REMARKS 38.998685º, -104.565604º	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type
TOPSOIL (0-18IN) SANDY LOAM, FINE to MEDIUM GRAINED, DARK BROWN	1					
	2			SG		1
LOAMY SAND, FINE to COARSE GRAINED, LIGHT BROWN	3					
	4			MA		4A
SANDY to VERY SANDY CLAYSTONE, DAWSON FORMATION, (SANDY CLAY,	5					
	6					
*-REDOX FEATURES AT 4'	7					
	8					
	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l
massive - ma

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TEST PIT LOGS

LATIGO TRAILS, FILING NO. 10
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FIG. B-3

TEST BORING 7
DATE DRILLED 4/3/2024

REMARKS

38.998957º, -104.569525º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						TOPSOIL (0-18IN), SANDY LOAM, FINE to MEDIUM GRAINED, DARK BROWN
2			GR	W	4A	
3						SANDY CLAY WITH GRAVEL, FINE to COARSE GRAINED, OLIVE
4						
5			MA		4A	COMPLETELY WEATHERED CLAYEY to SILTY SANDSTONE, DAWSON FORMATION, (SANDY CLAY LOAM, FINE to COARSE GRAINED, LIGHT BROWN to
6						
7						
8						
9						* - REDOX FEATURES AT 5.5'
10						

TEST BORING 8
DATE DRILLED 4/3/2024

REMARKS

39.070970º, -104.541285º

Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	Soil Type	
1						TOPSOIL (0-18IN), SANDY LOAM, FINE to MEDIUM GRAINED, DARK BROWN
2			GR	W	2A	
3						SANDY LOAM, FINE to COARSE GRAINED, LIGHT BROWN
4			BL	W	4A	
5						SANDY CLAY, FINE to MEDIUM GRAINED, OLIVE
6			MA		4A	COMPLETELY WEATHERED CLAYEY SANDSTONE, DAWSON
7						FORMATION, (SANDY CLAY LOAM, FINE to COARSE GRAINED, OLIVE)
8						
9						
10						

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l
massive - ma

ENTECH ENGINEERING, INC.

TEST PIT LOGS

LATIGO TRAILS, FILING NO. 10
BRJM, LLC

JOB NO. 240519

FIG. B-4

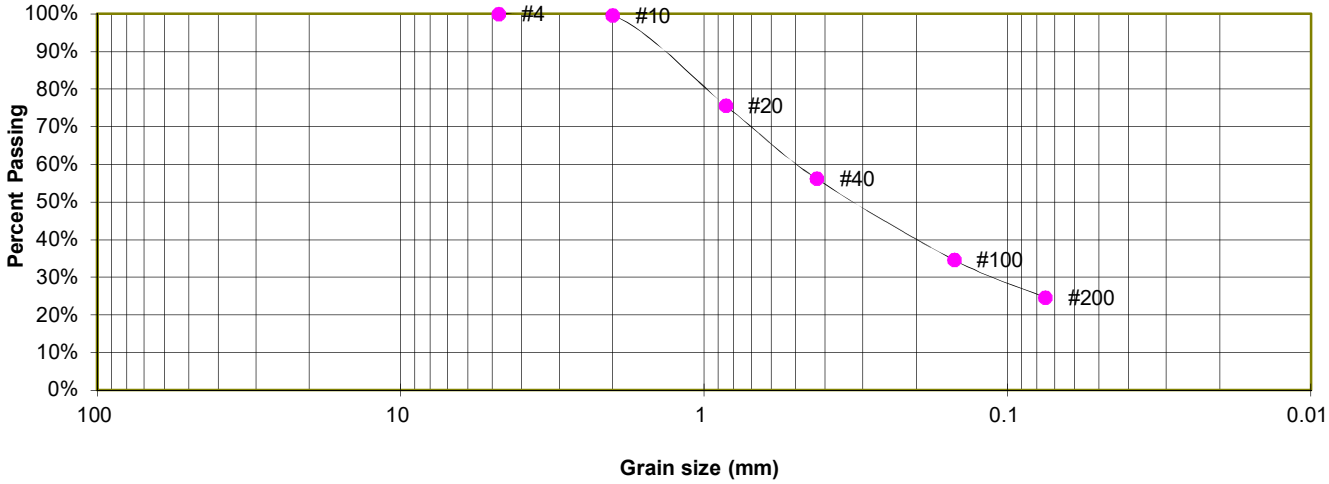
APPENDIX C: Laboratory Testing Results

ENTECH ENGINEERING, INC.

TABLE C-1
SUMMARY OF LABORATORY TEST RESULTS

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	PASSING NO. 200 SIEVE (%)	USCS	SOIL DESCRIPTION
1	TP-1	18"	24.6	SC	SAND, CLAYEY
2	TP-2	36"	14.4	SM	SANDSTONE (SAND, SILTY)
2	TP-3	60"	17.5	SM	SANDSTONE (SAND, SILTY)
1	TP-4	24"	11.0	SW-SM	SAND, WITH SILT
2	TP-5	42"	10.8	SW-SM	SANDSTONE (SAND, WITH SILT)
2	TP-6	48"	40.5	SC	SANDSTONE (SAND, CLAYEY)
1	TP-7	24"	25.7	SC	SAND, CLAYEY
2	TP-8	72"	28.4	SC	SANDSTONE (SAND, CLAYEY)

TEST BORING	TP-1	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	18"	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.6%
20	75.7%
40	56.2%
100	34.6%
200	24.6%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
BRJM, LLC

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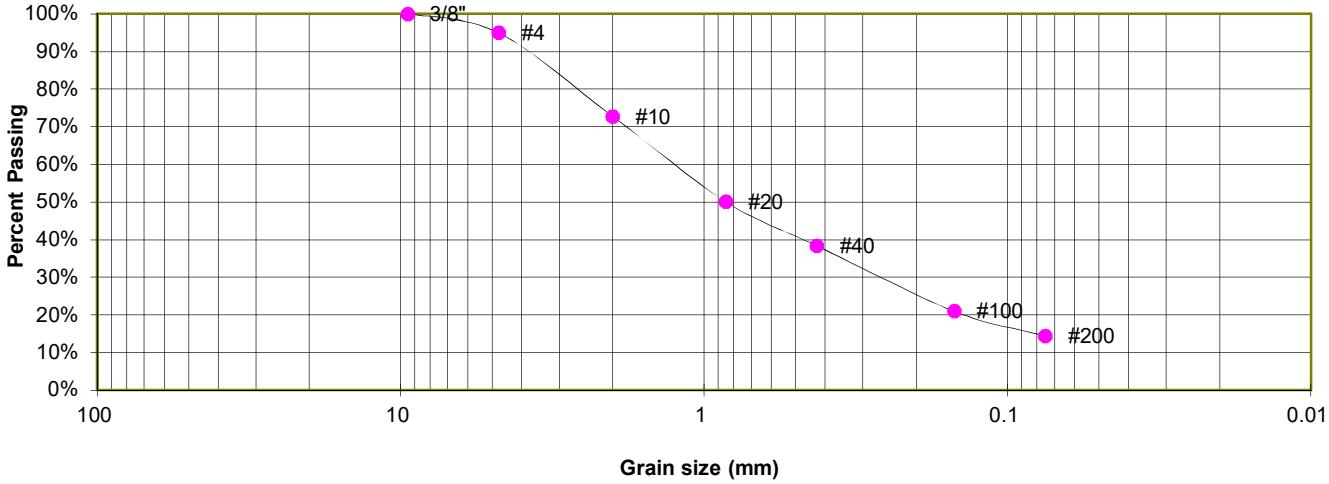
FIG. C-1

TEST BORING	TP-2	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	36"	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.0%
10	72.8%
20	50.1%
40	38.3%
100	21.0%
200	14.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

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BRJM, LLC

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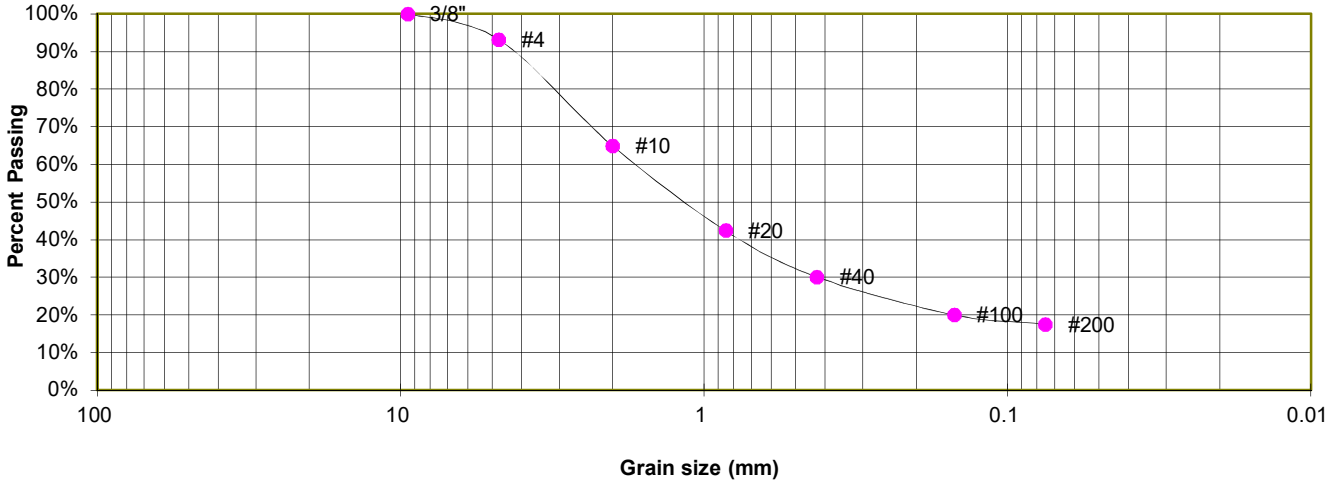
FIG. C-2

TEST BORING	TP-3	SOIL DESCRIPTION	SANDSTONE (SAND, SILTY)
DEPTH (FT)	60"	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.2%
10	64.9%
20	42.4%
40	30.1%
100	20.0%
200	17.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SM

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

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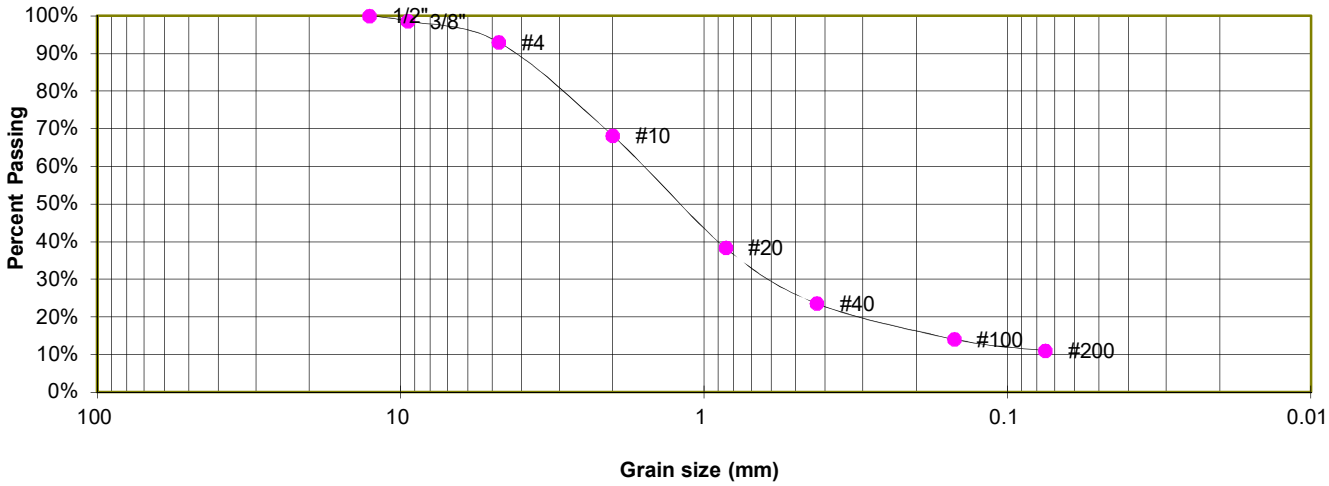
FIG. C-3

TEST BORING	TP-4	SOIL DESCRIPTION	SAND, WITH SILT
DEPTH (FT)	24"	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.7%
4	93.0%
10	68.2%
20	38.4%
40	23.6%
100	14.1%
200	11.0%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
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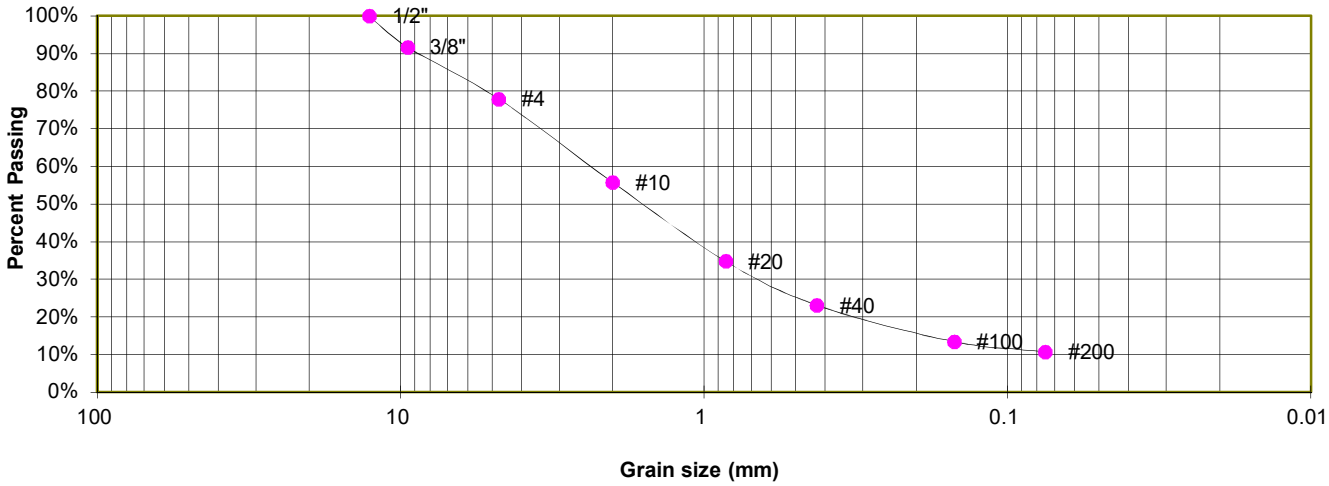
FIG. C-4

TEST BORING	TP-5	SOIL DESCRIPTION	SANDSTONE (SAND, WITH SILT)
DEPTH (FT)	42"	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	91.7%
4	77.9%
10	55.7%
20	34.8%
40	23.2%
100	13.5%
200	10.8%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SW-SM

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LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
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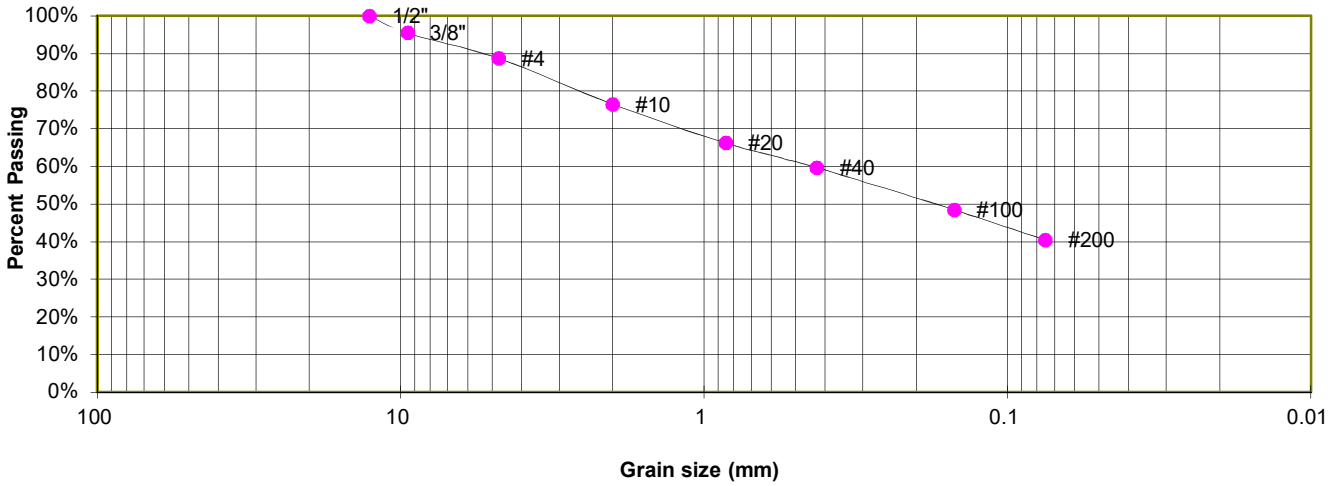
FIG. C-5

TEST BORING	TP-6	SOIL DESCRIPTION	SANDSTONE (SAND, CLAYEY)
DEPTH (FT)	48"	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	95.5%
4	88.7%
10	76.5%
20	66.2%
40	59.7%
100	48.5%
200	40.5%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
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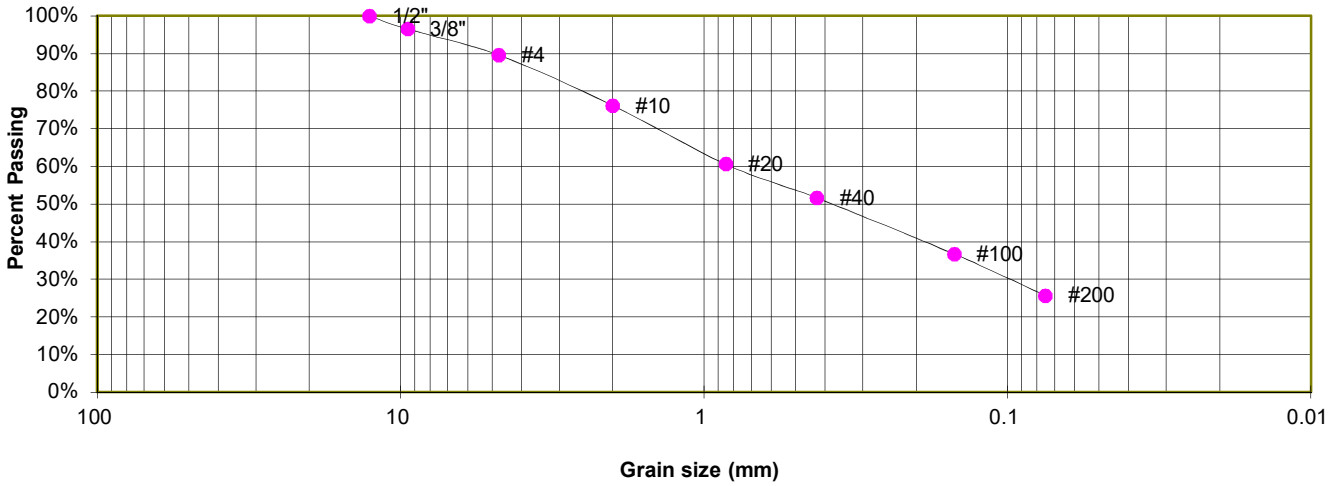
FIG. C-6

TEST BORING	TP-7	SOIL DESCRIPTION	SAND, CLAYEY
DEPTH (FT)	24"	SOIL TYPE	1



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	96.5%
4	89.5%
10	76.2%
20	60.6%
40	51.6%
100	36.7%
200	25.7%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

ENTECH ENGINEERING, INC.

LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
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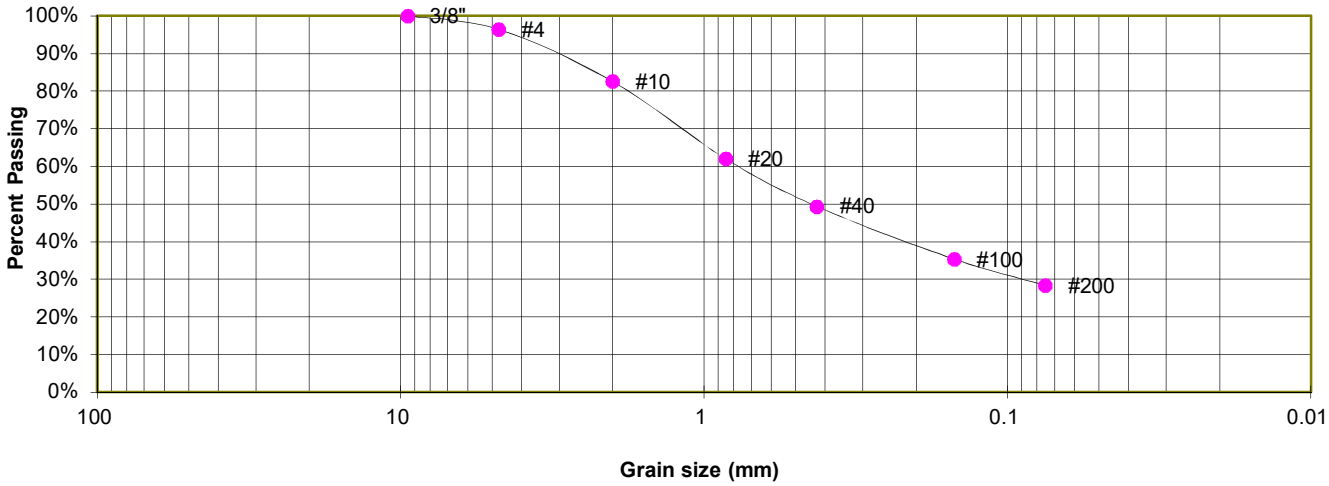
FIG. C-7

TEST BORING	TP-8	SOIL DESCRIPTION	SANDSTONE (SAND, CLAYEY)
DEPTH (FT)	72"	SOIL TYPE	2



GRAIN SIZE ANALYSIS

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.4%
10	82.6%
20	62.1%
40	49.4%
100	35.4%
200	28.4%

SOIL CLASSIFICATION

USCS CLASSIFICATION: SC

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LABORATORY TEST RESULTS

LATIGO TRAILS, FILING NO. 10
BRJM, LLC

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FIG. C-8

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

83—Stapleton sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369z
Elevation: 6,500 to 7,300 feet
Mean annual precipitation: 14 to 16 inches
Mean annual air temperature: 46 to 48 degrees F
Frost-free period: 125 to 145 days
Farmland classification: Not prime farmland

Map Unit Composition

Stapleton and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stapleton

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

A - 0 to 11 inches: sandy loam
Bw - 11 to 17 inches: gravelly sandy loam
C - 17 to 60 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R049XY214CO - Gravelly Foothill
Hydric soil rating: No

Minor Components

Fluvaquentic haplaquolls
Percent of map unit: 1 percent
Landform: Swales
Hydric soil rating: Yes

Other soils
Percent of map unit: 1 percent
Hydric soil rating: No

Pleasant
Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023